MEMORANDUM

TO: Distribution

FROM: Beth Shearer, Director
Federal Energy Management Program
Energy Efficiency and Renewable Energy

SUBJECT: Request for FY 2001 Energy Management Retrofit Projects

The Department of Energy (DOE) has led other Federal agencies in the efficient use of energy, reducing DOE energy consumption by over 39 percent since FY 1985, resulting in over $100 million in annual avoided energy costs. However, significant new challenges will be faced by DOE in meeting the requirements of the new Executive Order (EO) 13123 "Greening the Government Through Efficient Energy Management," and the more stringent energy efficiency goals established by the Secretary of Energy's memorandum of November 12, 1999. These challenges will require continued improvement in energy efficiency at our DOE facilities.

To help DOE maintain its energy management leadership role in the Federal government, the Federal Energy Management Program (FEMP) had requested funding to achieve the goals of the EO 13123 and the Secretary, and has received Congressional appropriations in fiscal year (FY) 2001. It is expected that this funding for DOE energy management program activities will also be available in future FYs to support our continued improvement in energy efficiency.
This call letter is to announce one of two funding initiatives that will be supported through Congressional appropriations, the funding of energy efficiency retrofit projects. This package has been reviewed by the Deputy Secretary and approved for release without Field Management Council Review. The other funding initiative will be to provide support for accomplishing many of the new requirements of the EO 13123 at DOE facilities, such as for energy audits or for accomplishing energy savings performance contracts, and will be announced through a separate call letter.

FEMP will provide a minimum of $3 million in FY 2001 to assist sites in reducing energy/utility costs by retrofitting existing facilities. FEMP is interested in providing DOE project support for a variety of energy management retrofit projects to demonstrate leadership in implementing the EO, including the following:

1. Solar and renewable projects;

2. Combined heat and power or distributed energy resource projects (i.e. fuel cells, microturbines, wind energy systems, photovoltaic systems, etc.);

3. Technology demonstration projects for new commercially available energy efficient systems;

4. Water conservation projects;

5. Projects to replace chillers using Class 1 ozone depleting substances, and which include other load reducing energy conservation measures;

6. Projects leading to the acquisition of Energy Star Building Labels, including metering projects; and

7. All other cost effective energy management retrofit projects.

Projects submissions that demonstrate leadership in implementing EO 13123, such as those identified above in items one through six, will be evaluated both qualitatively and quantitatively by FEMP. For all other projects, funding priority will be given to those projects with the highest ratios of life cycle cost savings to project cost [highest savings to investment ratio (SIR)]. Cost sharing will be another selection factor. FEMP will evaluate all project SIRs on FEMP project cost rather than total project cost. FEMP project cost will not exceed $500,000 for any one funded project.

Attachments 1 and 2 provide project submission requirements for all proposed cost effective projects with an SIR greater than one. If a project demonstrates leadership in implementing the EO, such as the potential projects identified above in items one through six, the abstract of attachment 3 may be submitted in lieu of attachments 1 and 2 at this time. It is expected that all projects that are funded will be completed within 2 years of funding, to maximize cost savings to the Department.

I request that you submit complete project nominations (Attachments 1-2) for all cost effective projects for funding consideration by February 1, 2001. I request that any abstracts for projects (Attachment 3) be submitted as soon as possible but no later than January 16, 2001.

Please send all submissions and direct any questions to Mr. Victor Petrolati (EE-90) on 202-586-4549.

Attachments

Attachment 1

FY 2001 Energy Management Retrofit Project Submission Guidance

Retrofit project (less than $5.0 million in Total Estimated Cost (TEC)) submissions must include the following items in order to be validated and considered for funding.

- Project Data Sheets
- Life-Cycle-Cost (LCC) Analysis
- Detailed Engineering Analysis
- Cost Estimate

Project Data Sheets

1. All information for completing Project Data Sheets (PDS) can be obtained from Chapter II (page II-3.111 through 3.139) of the Budget Formulation Handbook from the Office of the Chief Financial Officer (CFO). The Handbook can be retrieved from the CFO website at *www.cfo.doe.gov/budget/guidance/fy2002/index.htm.*

2. Complete Items 1 through 8. Provide realistic construction and financial schedules. We believe most of these small projects should be completed within 2 years of funding receipt.

3. Item 3, Brief Project Description, Justification and Scope shall include the number of buildings, square footage, number of systems, technologies to be installed, etc., which adequately describe the scope of the retrofit. Also include: Savings to Investment Ratio, Simple Payback, Annual Energy Savings, and First-Year Dollar Savings.

Life Cycle Cost (LCC) Analysis

1. Provide a separate LCC analysis for each project using the Attachment 2 Energy Management Economic Analysis Summary Sheet, or a compatible computer analysis such as that provided by the National Institutes of Standards and Technology (NIST). Use the techniques in NIST Handbook 135 as revised in 1996, with the following modifications:

    a. Use the current project cost estimate as the investment cost. This is different than the requested funding, which is the current cost escalated to the midpoint of construction.

    b. Calculate the unit costs by dividing the site's FY 1999 Energy Management System 3 (EMS3) total cost for each energy type by the total consumption. Electrical energy unit costs are expressed in dollars per kilowatt-hour and other energy types in dollars per million British thermal units.

Cost Estimate

1. The cost estimate shall be of moderate detail.

2. Escalation factors used to determine midpoint of construction costs shall be shown.

3. Explain any variations from "normal" contingencies, overhead rates, and escalation rates.

Engineering Analysis

1. The engineering analysis shall show the calculations used to determine energy and other savings. This analysis shall be of sufficient detail to clearly support the claimed savings.

2. If an analysis requires repetitive calculations, the calculations may be shown once. However, a summary table is necessary, which shows the inputs to, and results of the remaining calculations.

3. Units shall be put in numbers the first time they are used in a calculation.

4. All conversion factors must be defined.

5. If the project is the result of an architect/engineer study, reference to that study is not considered adequate engineering analysis. However, photocopies of the appropriate pages of the study may be submitted as the engineering analysis.

6. If a computer program is used to calculate energy savings, all input data must be provided with the project submission, as well as the computer generated output. All assumptions made in obtaining the input data must be explained.

Attachment 2

ENERGY MANAGEMENT ECONOMIC ANALYSIS SUMMARY SHEET

Project Description

Site/Field Office: _____ DOE Region:_____ Fiscal Year:

Prepared by:_____ Phone No: _____ Date:

E-mail Address: _____ Economic Life (years): _____ TEC ($):

Project Description (Title):

1. Investment

   a. Project Investment Cost (Current cost)..... $
   b. Cost sharing amount..... $
   c. Total Project Cost (a - b)..... $

SAVINGS

2. Annual Electricity Savings: kWh_____ x .003412 = mBtu's.....
   a. Cost per kWh .....$
   b. First Year Annual Dollar Savings (kWh x a)..... $

   c. Modified Uniform Present Worth Factor (Table B-___).....
   d. Discounted Savings (b x c)..... $

3. Annual Energy Benefits (Type: _____) mBtu's.....
   a. Cost per mBtu..... $
   b. First Year Annual Dollar Savings (mBtu x a)..... $
   c. Modified Uniform Present Worth Factor (Table B-___).....

   d. Discounted Savings (b x c)..... $

4. Annual Energy Benefits (Type:) mBtu's.....

   a. Cost per mBtu..... $
   b. First Year Annual Dollar Savings (mBtu x a)..... $
   c. Modified Uniform Present Worth Factor (Table B-___).....
   d. Discounted Savings (b x c)..... $

5. Annual O&M Costs (Non-Energy)

    a. O&M (Existing) ..... $
    b. O&M (Retrofit) ..... $
    c. Total (a-b)..... $
    d. NIST April 2000 Discount Factor (Table A-2).....
    e. Discounted Annual Non-energy O&M Costs © x d)..... $

6. Total First Year Annual Savings (2b + 3b + 4b + 5c)..... $
7. Total Discounted Benefits (2d + 3d + 4d + 5e)..... $
8. Total Energy Savings (2 + 3 + 4).....

RESULTS

9. Savings to Investment Ratio (Line 7 / Line 1c).....
10. Simple Payback (Line 1c / Line 6).....
11. MBtu's per Dollar invested (Line 8 / Line 1a).....

Attachment 3

ABSTRACT FOR PROJECTS TO DEMONSTRATE LEADERSHIP UNDER EXECUTIVE ORDER 13123

PURPOSE:

The abstract is being requested to support projects that can demonstrate leadership in implementing Executive Order 13123. The submission of the abstract will be the initial step in evaluating potential projects that may be funded as part of this project call. These projects will be evaluated qualitatively and quantitatively by FEMP. The initial submission using the abstract will be the qualitative evaluation of the project, and projects being selected under this step will be asked later to submit the full project documentation requirements in attachments 1 and 2. The following types of projects can be submitted using the abstract format:

1. Solar and renewable projects;

2. Combined heat and power or distributed energy resource projects (i.e. fuel cells, microturbines, wind energy systems, photovoltaic systems, etc.);

3. Technology demonstration projects for new commercially available energy efficient systems;

4. Water conservation projects;

5. Projects to replace chillers using Class 1 ozone depleting substances, and which include other load reducing energy conservation measures; and

6. Projects leading to the acquisition of Energy Star Building Labels, including metering projects.

PROJECT SUBMISSION REQUIREMENTS:

Please provide the following information for the project abstract:

1. Contact person name, phone, fax and E-mail;

2. Address;

3 A project title that is sufficiently short and descriptive to permit ready reference;

4. Project location;

5. Project schedule;

6. Total estimated cost including any cost sharing that might be included for the project and the identification of other entity(s) and costs that would be shared with FEMP;

7. Project description, justification and scope. State clearly and concisely the essential features of the project (how many buildings, square feet, etc.). Describe how this project will demonstrate DOE leadership in implementing the Executive Order or achieving the Secretary's goals for energy efficiency. Describe any project partners that and the level of support they may provide. Describe the energy savings and other savings that are projected to be achieved from the project, and provide an estimate of the savings to investment ratio for the project;

8. Describe how this project will be implemented and who will be responsible for design and construction; and

9. Provide any other significant details for the project that may be critical in completing the project in a timely fashion (within 2 years of receiving funding).